

AMENDMENTS TO THE CLAIMS

Claims 37-46 (Canceled)

66. (Amended) A method as set forth in claim 65 wherein a position of an ignition key in the ignition switch is used to determine if the engine is in a start mode.

Claims 79-80 (Canceled)

86. (Amended) A method for controlling an internal combustion engine during the cold start of a multi-cylinder internal combustion engine having a fuel supply, a plurality of fuel injectors located adjacent to separate engine cylinders, a cold start fuel injector and heater fluidly coupled to the engine cylinders, and an air passageway having a pivotally secured throttle valve disposed therein, said method comprising the steps of:

determining if the engine is in a crank mode and supplying fuel to the engine cylinder from the plurality of fuel injectors during engine startup;

determining if the crank mode has ended and supplying fuel to the engine cylinder for a predetermined period of time through the cold start injector if the crank mode has ended;

mixing the fuel from the cold start injector with air to produce an air-fuel mixture;

passing said air-fuel over said heater elements to cause the fuel to be vaporized;

supplying the vaporized air-fuel mixture to the engine cylinders; and

switching from fuel supplied by the cold start injector to fuel supplied by the plurality of fuel injectors after the engine reaches a predetermined condition measured by temperature or time.

90. (Amended) A method for controlling an internal combustion engine during the cold start of a multi-cylinder internal combustion engine having a fuel supply, a plurality of fuel injectors located adjacent to separate engine cylinders, a cold start fuel injector and heater fluidly coupled to the engine cylinders, and an air passageway having a pivotally secured throttle valve disposed therein, said method comprising the steps of:

initiating power to the heater for a predetermined period of time before the engine is started;
supplying fuel to the engine cylinders through the cold start injector;
mixing the fuel from the cold start injector with air to produce an air-fuel mixture;
passing said air-fuel over said heater elements to cause the fuel to be vaporized;
supplying the vaporized air-fuel mixture to the engine cylinder; and
determining if the engine has started and the engine is in an idle mode and supplying a predetermined amount of fuel to the engine from the plurality of fuel injectors according to a predetermined engine coolant fluid temperature, while the engine is in the idle mode.

Claims 93-96 (Canceled)

97. (Amended) A method for controlling an internal combustion engine during the cold start of a multi-cylinder internal combustion engine having a fuel supply, a plurality of fuel injectors located adjacent to separate engine cylinders, a cold start fuel injector and heater fluidly coupled to the engine cylinders, and an air passageway having a pivotally secured throttle valve disposed therein, said method comprising the steps of:

determining if the heater meets a predetermined condition before the engine begins engine startup and supplying power to the injector if the predetermined condition is met;
supplying fuel to the engine cylinders through the cold start injector;
mixing the fuel from the cold start injector with air to produce an air-fuel mixture;
passing said air-fuel over said heater elements to cause the fuel to be vaporized;
supplying the vaporized air-fuel mixture to the engine cylinders; and
switching from fuel supplied by the cold start injector to fuel supplied by the plurality of fuel injectors after the engine reaches a predetermined condition measured by temperature or time.